ABSTRACT

In a method for achieving higher S/N, one or more signals are received and processed to provide one or more streams of samples. In a first processing scheme, the sample stream(s) are equalized and combined within an equalizer to generate symbol estimates, which may be subsequently processed (e.g., despread and decovered) to provide a first stream of recovered symbols. The sample stream(s) may be equalized prior to being combined. In this case, each sample stream is filtered with a set of coefficients and may be scaled with a scaling factor. The scaled samples for all streams are then combined to generate the symbol estimates. Alternatively, the sample stream(s) may be combined prior to being equalized. In this case, each sample stream is scaled by a scaling factor. The scaled samples for all streams are then combined to generate summed samples that are further filtered with a set of coefficients to generate the symbol estimates. The sample stream(s) may also be processed by a second processing scheme with one or more rake receivers to provide a second stream of recovered symbols. The signal quality for each processing scheme can be estimated and used to select either the first or second processing scheme.